

REMARKS:

In the foregoing amendments, claims 4-7 were amended to better define the invention, which amendments to claims 4 and 5 will be discussed below in connection with the rejection under the second paragraph of 35 U.S.C. §112. Claims 8-10 were added to the application, which claims correspond to previously present a claims 4-6. New claim 8 defines the formation of solutions corresponding to the processing steps of claim 4. For example, claim 8 requires that a plurality of solutions is formed or prepared in the mixing tank, which include a mixed solution of the fuel and additive (step b), a first mixture solution of the fuel, additive and water (step c), a secondly mixed solution of the fuel, additive and water (step d) and a separated second mixture solution with a water rich portion at a bottom portion of a mixing tank (step e). These aspects of applicant's claimed invention are described in the present specification disclosure at page 10, lines 10-15, page 16, lines 16-24, and page 19, lines 6-16, and elsewhere. Similar amendments were made to claim 7, which are supported in the discussions at page 18, lines 2-11, FIG. 3 and elsewhere in applicant's specification disclosure.

The foregoing amendments were made to clarify what was already implied in applicant's claims and these amendments are not narrowing amendments and were not made for reasons substantially related to patentability presented. Claims 4-10 are present in the application for consideration by the examiner. Reconsideration and allowance of these claims are respectfully requested for at least the following reasons.

Applicants desire to express thanks to Examiner Toomer for the courtesies extended the undersigned in a telephone interview on March 7, 2007. During the interview, a number of possible amendments to the claims were discussed. While the examiner did not agree to remove

any of the rejections in the outstanding Office action, the examiner stated that the proposed amendments to claims 4 and 5, as attached hereto, have a good possibility of removing the rejections under 35 U.S.C. §112, second paragraph, and 35 U.S.C. §103.

Claims 4 and 5 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. This rejection appears on pages 2 and 3 of the Official action. The Official action stated that the expression "containing substantially no emulsion fuel" is unclear. In the foregoing amendments to claim 4, this expression was removed from the claim. This expression is not included in new claim 8. Accordingly, applicant respectfully submits that this portion of the rejection is now moot.

In addition, the Official action stated that step (e) in claim 4 required separating the mixture solution in the mixing tank and forming a water rich portion, but there is no mention in step (f) of what happens to the water rich portion. Furthermore, the Official action stated that it is not clear what "forming a water rich portion thereof" means. In the foregoing amendments to claim 4, step (e) was amended to define that the water rich portion of the mixture solution is formed at a bottom portion of a mixing tank. This water rich portion of the mixture solution is formed by gravity as would be understood by any person skilled in the art. When the fuel, additive and water are not completely mixed, there is a portion that contains more fuel relative to water and a portion that contains more water relative to fuel. Since the water is heavier than the fuel, the portion that contains more water relative to fuel sinks to the bottom portion of the mixing tank, thereby forming the water rich portion of the mixture solution at a bottom portion of a mixing tank, as defined in step (e) of claim 4.

In the foregoing amendments to claim 4, step (f) was amended to define emulsifying the mixture solution from the bottom portion of the mixing tank at first through the processing means and returning the mixture solution to the mixing tank, thereby forming the emulsion of water and fuel. Since the heavier water rich portion of the mixture is formed at a bottom portion of the mixing tank, this portion of the mixture solution is firstly processed through the pump 11 and the processing means 12, along the lines shown in FIG. 4 of the present application. Claim 5 was amended to define that the water rich portion of the mixture solution is firstly emulsified in step (f) of claim 4.

For the foregoing reasons, applicant respectfully submits that any person skilled in the art would attach a particular and definite meaning to the invention defined in claims 4 and 5 within the meaning of 35 U.S.C. §112, second paragraph. Therefore, applicant respectfully requests that the examiner reconsider and withdraw this rejection.

Claims 4-7 were rejected under 35 U.S.C. §103(a) as being unpatentable over U. S. patent No. 5,873,916 of Cemenska *et al.* (Cemenska). Applicant respectfully submits that the teachings of Cemenska do not disclose or suggest the inventions set forth in claims 4-10 within the meaning of 35 U.S.C. §103(a) for the reasons set forth in the response filed on August 29, 2006, which are incorporated herein by reference, and for at least the following reasons.

Applicant's claims require that a plurality of different solutions are formed in the mixing tank at different stages or steps of the process. In contrast thereto, the teachings of Cemenska fail to contemplate or suggest a process where a single mixing tank is used to hold a plurality of different solutions at different stages or steps of an emulsification process. While the Official action appeared to equate the aging reservoir 72 of Cemenska to the mixing tank 4 shown in FIG.

4 of the present application, there is no discussion or suggestion in Cemenska that the aging reservoir 72, as described therein, is used to hold and supply different mixture solutions or modified mixture solutions at different times to the processing means (e.g., emulsifier) and elsewhere as required in the present claims.

Consider, for example, the inventions defined in claims 4 and 8. These claims require, *inter alia*, that at least four different mixture solutions or a mixture solution at four different stages of processing are contained in the mixing tank, which include:

- I. a mixture solution of the fuel and additive, step (b) in claims 4 and 8;
- II. a first mixture solution of the fuel, additive and water, step (c) in claim 8; or a first mixture solution of the fuel, additive and water, step (c) in claim 4;
- III. a second mixture solution of the fuel, additive and water, step (d) in claim 8; or mixture solution that was processed through the processing means, step (d) in claim 4; and
- IV. A separated second mixture solution having a water rich portion at a bottom portion of a mixing tank, step (e) in claim 8; or separated mixture solution (that was previously processed through the processing means) having a water rich portion at a bottom portion of a mixing tank, step (e) in claim 4.

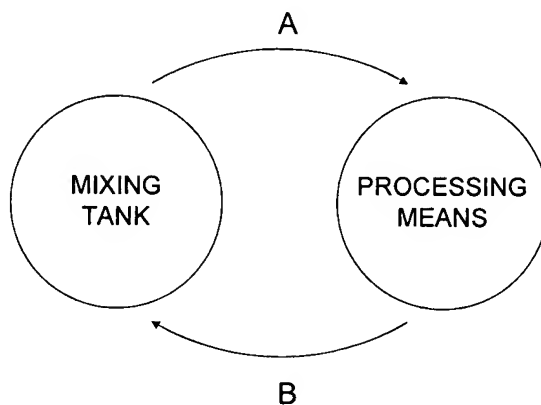
Similarly, the invention defined in claim 7 requires, *inter alia*, that at least three different mixtures solutions are contained in the mixing tank, which include:

- I. a first mixture solution of the fuel, additive, and the emulsion of water and fuel having a first volume, step (b) in claim 7;

- II. a second mixture solution of the fuel, additive, water, and the emulsion of water and fuel having a first volume, step (c) in claim 7; and
- III. the resulting emulsion of water and fuel having a second volume larger than the first volume, step (d) in claim 7.

The teachings of Cemenska fail to contemplate or suggest a process where a single mixing tank is used to hold four different solutions (i.e., solutions I-IV, as identified above, for claims 4 and 8) or three different solutions (i.e., solutions I-III, as identified above, for claim 7) at different stages or steps of an emulsification process. For these reasons, applicant respectfully submits that the inventions defined in claims 4-10 are patently distinguishable from the teachings of Cemenska.

In addition, applicant's claims require at least one recycling step that includes the mixing tank, which is not contemplated or suggested by the teachings of Cemenska. The limitations in applicant's claims can be diagrammed as follows and include, *inter alia*:




Claims 4 and 8 include, *inter alia*, a first step A, a second step B and a third step A in the above diagram. Claim 7 includes, *inter alia*, steps A and B in the above diagram. The teachings of Cemenska do not disclose or suggest such a recycling between a mixing tank and a processing

means, as presently claimed. For example, viewing the aging reservoir 72 as shown in Fig. 1 of Cemenska, it is readily apparent that there is no recycling between the aging reservoir 72 and the first in-line mixer 46 or the second in-line mixer 52, which allegedly correspond to the presently claim processing means. For these reasons, applicant respectfully submits that the inventions defined in claims 4-10 are patently distinguishable from the teachings of Cemenska. Therefore, applicant respectfully requests that the examiner reconsider and withdraw this rejection.

At least for the foregoing reasons, a formal allowance of claims 4-10 is respectfully requested. While it is believed that all the claims in this application are in condition for allowance, should the examiner have any comments or questions, it is respectfully requested that the undersigned be telephoned at the below listed number to resolve any outstanding issues.

In the event this paper is not timely filed, applicant hereby petitions for an appropriate extension of time. The fee therefor, as well as any other fees which become due, may be charged to our deposit account No. 50-1147.

Respectfully submitted,
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